



MECHANICAL DATA SHEET: VESSEL

PLANT ITEM No.
24590-LAW-MV-RLD-VSL-00004

Project:	RPP-WTP	P&ID:	24590-LAW-M6-RLD-P0002
Project No:	24590	Process Data Sheet:	24590-LAW-MVD-RLD-00002
Site:	Hanford	Vessel Drawing	24590-LAW-MV-RLD-P0001
Description:	C3/C5 Drains/Sump Collection Vessel		

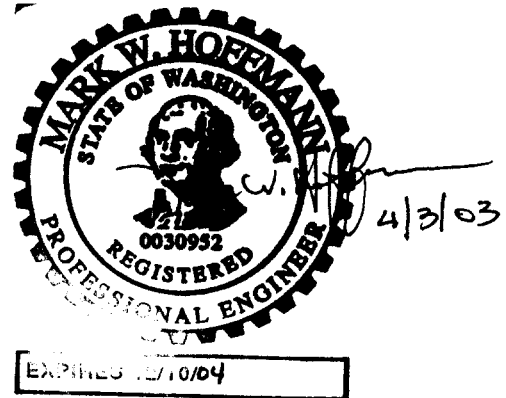
Reference Data

Charge Vessels (Tag Numbers)	Not Applicable
Pulsejet Mixers (Tag Numbers)	Not Applicable
RFDs/Pumps (Tag Numbers)	Not Applicable

Design Data

Quality Level	CM	Fabrication Specs	24590-WTP-3PS-MV00-TP001 (PVDF)		
Seismic Category	SC-3	Design Code	ASME VIII Div 1		
Service/Contents	Radioactive Liquid	Code Stamp	Yes		
Design Specific Gravity	1.47	NB Registration	Yes		
Operating Volume	gal 6510	Weights (lbs)	Empty	Operating	Test
Total Volume	gal 7696	Estimated	17000	86500	82300
		Actual *	20650	102000	86150

Inside Diameter	inch	120	Wind Design	Not Required	
Length/Height (TL-TL)	inch	132	Snow Design	Not Required	
		Vessel Operating	Vessel Design	Seismic Design	24590-WTP-3PS-MV00-TP002
Internal Pressure	psig	Atm	15	None	24590-WTP-3PS-FB01-T0001
External Pressure	psig	0.6	FV	None	
Temperature	°F	158	183	None	
Min. Design Metal Temp.	°F	-20			
			Seismic Base Moment *	ft*lb	
			Postweld Heat Treat	Not Required	
			Corrosion Allowance	inch	0.04
			Hydrostatic Test Pressure *	psig	20



This Bound Document Contains a total of 3 pages

1	4/3/03	Issued for Permitting Use	Josh Velasquez	Cliff Slater		Suzanne Kirk
0	08/09/02	Issued for Permitting Use				
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Materials of Construction

Component	Material	Minimum Thickness	Containment
Top Head	SA-240 316 (Note 5)	See Drawing	Auxiliary
Shell	SA-240 316 (Note 5)	See Drawing	Primary
Bottom Head	SA-240 316 (Note 5) (Note 6)	See Drawing	Primary
Support	SA-240 304 (Note 5) ¹	See Drawing	Not Applicable
Jacket/Coils/Half-Pipe Jacket	None	Not Applicable	Not Applicable
Internals	SA-240 316 (Note 5)	See Drawing	Thermowells Primary ¹
Pipe	SA-312 316 (Note 5) Seamless ¹	See Drawing	Note 1
Forgings/ Bar stock	SA-182 F316 (Note 5)	See Drawing	Not Applicable
Gaskets	Note 7	Not Applicable	Not Applicable
Bolting	SA-194 B8 / SA-193 8	See Drawing	Not Applicable

Miscellaneous Data

Orientation	Vertical	Support Type	Skirt
Insulation Function	None	Insulation Material	Not Applicable
Insulation Thickness (inch)	Not Applicable	Internal Finish	Note 3
		External Finish	Note 4

Notes

* To be determined by the vendor.

Note 1: Nozzle necks below normal operating level are Primary, others Auxiliary. See PVDF and vessel drawing for NDT.

Note 3: Descale all internal welds as laid, grind smooth and blend all starts/stops, high spots, and crevices, finish welds as required for NDE purposes.

Note 4: Welds descaled as laid. ¹

Note 5: Maximum carbon content of 0.030%.

Note 6: 0.125 inch thick SB443 625 explosion bonded cladding on concave surface. ¹

Note 7: Spiral wound, 316SS, flexible graphite fill, 118" thick. ¹

Equipment Cyclic Data Sheet

Component Plant Item Number:	RLD-VSL-00004
Component Description	Parent Vessel

The information below is provisional and envelopes operational duty for fatigue assessment. It is not to be used as operational data.

Materials of Construction	SA-240 316
Design Life	40 Years
Component Function and Life Cycle Description	This tank collects drains liquid from the plant. Approximately twice a week the contents are pumped out. The pressure over the liquid is the Vessel Vent extraction depression.

Load Type		Min	Max	Number of Cycles	Comment
Design Pressure	psig	FV ¹	15	10	Nominal Assumption
Operating Pressure	psig	-0.1 ¹	0.07	4160	2 cycles per week for forty years
Operating Temperature	°F	59	158	4160	Coincident with pressure cycles. Adjacent locations <50° F range.
Contents Specific Gravity		1.47 ¹			
Contents Level	inch	Empty	Op Vol	4160	
Localized Features					
Nozzles					
Supports					



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Notes

- ***Cycle increase: The Seller must increase the numbers of operational cycles given above by 10% to account for commissioning duty unless otherwise noted.***